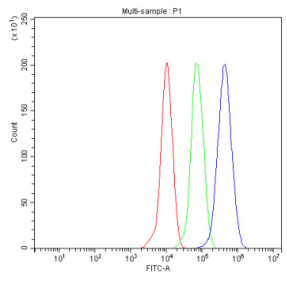
PIK3R2 Antibody / PI3K p85 beta (R31788)

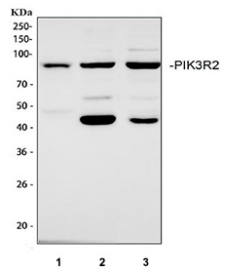
Catalog No.	Formulation	Size
R31788	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O00459
Applications	Western Blot : 0.5-1ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This PIK3R2 antibody is available for research use only.



Flow cytometry analysis of fixed and permeabilized human ThP-1 cells with PIK3R2 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= PIK3R2 antibody.



Western blot analysis using PIK3R2 antibody. Lane 1: human A549 whole cell lysates; Lane 2: human Jurkat whole cell lysates; Lane 3: human K562 whole cell lysates. The predicted molecular weight of PI3K p85 beta is ~82 kDa, and a predominant band is observed at the expected size.

Description

PIK3R2 antibody targets Phosphoinositide-3-kinase regulatory subunit 2, commonly known as PI3K p85 beta, encoded by the PIK3R2 gene. PI3K p85 beta is one of the regulatory subunits of class IA phosphoinositide-3-kinases and forms a heterodimeric complex with catalytic subunits such as p110 alpha, p110 beta, or p110 delta. This regulatory subunit stabilizes the catalytic partner and mediates recruitment of the PI3K complex to activated cell surface receptors through interactions with phosphorylated tyrosine residues. PI3K p85 beta is primarily localized in the cytoplasm but rapidly associates with cellular membranes upon receptor activation.

Functionally, PI3K p85 beta plays a critical role in controlling PI3K-AKT signaling, a central pathway regulating cell growth, survival, metabolism, and proliferation. By modulating catalytic subunit activity and receptor coupling, PIK3R2 influences the strength and duration of downstream signaling responses. Compared with the closely related p85 alpha subunit, PI3K p85 beta has been reported to exhibit distinct regulatory properties and tissue-specific contributions to PI3K pathway signaling. A PIK3R2 antibody supports studies focused on signal transduction and regulation of PI3K-dependent cellular processes.

PIK3R2 expression is widespread, with notable roles in metabolic tissues, immune cells, and the nervous system. In insulin-responsive tissues, PI3K p85 beta contributes to metabolic signaling downstream of insulin and growth factor receptors. In immune cells, it participates in signaling pathways that regulate activation, migration, and cytokine responses. Its expression and functional contribution can vary depending on cell type and physiological context, reflecting the complexity of PI3K pathway regulation.

From a disease-relevance perspective, altered PIK3R2 expression or function has been implicated in cancer, metabolic disease, and developmental disorders. Dysregulation of PI3K signaling is a hallmark of many cancers, and changes in regulatory subunit balance can influence pathway output and therapeutic response. Mutations in PIK3R2 have also been linked to overgrowth syndromes and neurodevelopmental abnormalities, highlighting its importance in growth and developmental signaling pathways. These associations make PI3K p85 beta a key molecule in studies of disease-associated PI3K pathway dysregulation.

At the molecular level, PI3K p85 beta contains SH2 domains that mediate binding to phosphorylated receptors and adaptor proteins, as well as regulatory regions that control catalytic subunit stability and activity. Post-translational modifications and interaction with binding partners can influence its signaling function and electrophoretic behavior on SDS-PAGE without implying changes in primary protein structure. A PIK3R2 antibody supports research applications focused on PI3K signaling, metabolic regulation, and disease-related alterations in intracellular signaling pathways, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the PIK3R2 antibody should be determined by the researcher.

Immunogen

Amino acids KYQQDQIVKEDSVEAVGAQLKVYHQQYQDKSREYDQL of human PIK3R2 were used as the immunogen for the PIK3R2 antibody.

Storage

After reconstitution, the PIK3R2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.